Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules	)	GN Docket No. 11-117
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196

COMMENTS OF METROPCS COMMUNICATIONS, INC.

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MetroPCS Communications, Inc. ("MetroPCS"),[1] by its attorneys, hereby respectfully submits its comments on the *Notice of Proposed Rulemaking* and *Second Further Notice of Proposed Rulemaking* (the "*NPRM*")[2] released by the Federal Communications Commission (the "FCC" or "Commission") in the above-captioned proceedings. MetroPCS applauds the Commission's efforts to improve the E911 system and agrees that developing a wide-ranging record with respect to E911 for VoIP calls is an important task. However, MetroPCS urges the Commission to carefully consider any requirements that would impose unnecessary and undue

[1] For purposes of these Comments, the term "MetroPCS" refers to MetroPCS Communications, Inc. and all of its FCC license-holding subsidiaries.

[2] *Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules*; *Wireless E911 Location Accuracy Requirement*; *E911 Requirements for IP-Enabled Service Providers*, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, FCC 11-107, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196 (rel. Jul. 13, 2011) ("*NPRM*").

burdens on wireless carriers. Any new rules must include a significant transition period to allow the mobile wireless VoIP 911 ecosystem to develop. In response to the *NPRM*, the following is respectfully shown:

I. INTRODUCTION AND SUMMARY

MetroPCS commends the Commission for seeking to produce a robust record that can be used to enable E911 policies to keep pace with swift technological change. As the Commission recognizes, "there has been a significant increase in the availability and use of portable VoIP services and applications that do not meet one or more prongs of the interconnected VoIP service definition."[3] The *NPRM* properly recognizes the importance of updating the E911 rules to promote a technology-neutral regulatory environment and create regulatory parity among connecting services. To do so, the Commission should revisit the definition of interconnected VoIP, and classify all VoIP services capable of reaching United States E.164 numbers as interconnected VoIP for all regulatory purposes. In addition, the Commission should apply E911 obligations to outbound-only VoIP services, as customers using these applications from their handsets are unlikely to distinguish between 911 calls made from outbound-only applications and bi-directional applications.[4]

In promulgating these rules, however, the Commission must be mindful not to create rules that stifle innovation or misallocate scarce carrier resources. To that end, any rules adopted in this proceeding must allow for a significant transition period before the rules would go into effect. Such a transition period would allow wireless carriers to offer ordinary voice services

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[3] *NPRM* at ¶ 41.

[4] The Commission, however, obviously does not need to include inbound-only VoIP as the calling party, not the called party, will have access to 911 services.

over VoIP or other next-generation technologies while routing E911 calls from handsets via their circuit-switched CDMA/GSM networks. This will enable carriers to continue to innovate and rapidly deploy 4G technologies, while still providing consumers with the same robust E911 service that they are accustomed to. Further, a transition period will allow handset manufacturers, carriers, and support vendors time to design, develop, and implement solutions for E911 over VoIP.

The Commission also must resist the temptation to impose additional consumer disclosure obligations on wireless carriers relating to the location-detecting technology that may be available on particular handsets. Such a requirement would impose a steep burden for wireless providers to track and test each new VoIP application that comes out in order to comply with such an obligation. The public interest would be better served by allowing carriers to devote additional resources to broadband deployment and next-generation wireless technologies rather than forcing them to comply with yet another reporting or disclosure obligation. Finally, the Commission should not subject wireless carriers to the current requirements imposed on interconnected VoIP providers that customer-provided service locations be used for all calls. The better solution is to allow wireless carriers to use their existing 911 CDMA/GSM solutions which provide accurate location information and does not force wireless carriers to use potentially outdated and inaccurate customer location information.

II. ANY RULES MUST ALLOW FOR A SIGNIFICANT TRANSITION PERIOD

The development of voice over long-term evolution ("VoLTE") is in its infancy. The emerging VoLTE technology is the result of an initiative by the GSMA to create a standard way of delivering voice and messaging services over LTE in a manner that provides consumers both high-fidelity voice calling and simultaneous voice and data usage. VoLTE seeks to allow

carriers to integrate their voice and data service offering into a single stream, which provides greater efficiency in the use of scarce spectrum resources and results in a greater number of customers being served over the same amount of spectrum. This can reduce the need for additional spectrum and also reduce the costs for carriers who would otherwise be required to maintain two different networks. To MetroPCS' knowledge, there currently is not any commercial implementation of VoLTE worldwide, and the standards for 911 capabilities in VoLTE are just now being developed. The Commission needs to be mindful that the standards bodies need time to develop the appropriate protocol for the provision of 911 services. Otherwise, carriers will be deterred from expending the significant time and resources necessary to implement VoLTE and will instead provide circuit-switched voice service for a longer period of time. The public interest would not be served if the Commission imposed a requirement that VoLTE have 911 capabilities out of the box.

It will take time for the necessary standards to be finalized and for the entire 911 VoLTE ecosystem to develop once the standards are promulgated. This should come as no surprise since, as the Commission knows, it took a considerable period for the industry to develop and implement 911 services for circuit-switched services. While the process should take less time for VoLTE because of the pace of innovation and adoption, the Commission cannot expect the VoLTE ecosystem to fully evolve for a number of years after the standards are promulgated. While carriers will do their best to ensure that the necessary capabilities are developed and implemented as soon as possible, ultimately the carriers have no choice but to rely on their infrastructure, handset, and application providers to develop the necessary technology and capabilities to allow for 911 services over VoLTE. Therefore, the Commission should not require 911 capabilities for VoLTE services for three years following the adoption of VoLTE

911 standards, which will allow time for the 911 VoLTE ecosystem to develop and for the solution to be implemented. This proposed transition period should not pose an E911 service issue because, as is set forth in greater detail below, MetroPCS also recommends that CMRS carriers be allowed to use their existing CMRS circuit-switched networks for 911 services. Indeed, the Commission may want to require that CMRS carriers who decide to implement VoLTE also build the capabilities into their handsets to allow for the provision of CMRS 911 services via other methods.

III. ANY RULES MUST ENSURE THAT HANDSETS ARE PERMITTED TO USE EXISTING CIRCUIT-SWITCHED SYSTEMS TO PROVIDE E911 SERVICE

As wireless carriers rapidly transition to next-generation 4G technology on their networks, the Commission must ensure that its rules promote this beneficial change and not inadvertently hamper it. As noted above, a number of wireless providers, including MetroPCS, have indicated an intent to converge around the VoLTE standard for their next-generation voice offering.[5] During this shift to 4G LTE network technologies, there will necessarily be a lag period as the new technology catches up with all of the potential features of the current-generation network. And, E911 may not function properly over the initial VoLTE implementation because the 911 ecosystem for VoLTE will not yet have developed. Nevertheless, the Commission must not delay carriers from implementing VoLTE until the 911

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[5] *See, e.g.*, Brad Molen, "MetroPCS will begin transition to VoLTE early next year," Engadget.com (Aug. 2, 2011) *available at* http://www.engadget.com/2011/08/02/metropcs-will-begin-transition-to-volte-early-next-year/; Sean Hollister, "AT&T also looking at Voice over LTE, paints a bullseye on 2013," Engadget.com (Feb. 15, 2011), *available at* http://www.engadget.com/2011/02/15/atandt-also-looking-at-voice-over-lte-paints-a-bullseye-on-2013/; Chris Ziegler, "Verizon successfully completes first VoLTE call on commercial network in the world, plans 2012 availability," Engadget.com (Feb. 9, 2011), *available at* http://www.engadget.com/2011/02/09/verizon-successfully-completes-first-volte-call-in-the-world-pl/.

VoLTE ecosystem develops. Rather, any rules that the Commission adopts in this proceeding should acknowledge this transition and permit carriers using a VoLTE standard to rely upon their existing circuit-switched wireless systems to provide E911 service until E911 is readily available for VoLTE.

The Commission's objective should be to ensure that consumers are able to reach 911 services in an emergency – not to dictate the path that consumers use to get there. For instance, while a customer's ordinary voice traffic may ride over the carrier's VoLTE network, for any E911 calls placed by the customer, the handset could automatically select CDMA/GSM to place the call. Such an arrangement provides a dual benefit of giving customers early access to next-generation VoLTE networks for their standard traffic, while providing the E911 functionality (including location accuracy) that customers enjoy today. Similarly, if a customer is using VoIP over a WiFi network (such as at a coffee shop or in the customer's home), wireless carriers still should be permitted to connect all E911 calls via their existing circuit-switched systems. As with the above-described VoLTE protocol, the handset would recognize that the customer is placing an E911 call and automatically route the call over the carrier's CDMA/GSM network, rather than over the VoIP WiFi connection. Again, the Commission should not mandate the way in which wireless providers allow their customers to reach 911 services. The Commission will have served the public interest as long as it ensures that robust 911 services are available to consumers. Pursuing this interim policy would allow wireless carriers to continue to innovate while continuing to preserve access to critical 911 services. Of course, when circuit-switched 911 capability is being used, the applicable circuit-switched location accuracy rules, rather than any alternate VoIP location requirements, should apply. This promotes public safety because the circuit switched rules are more stringent in terms of greater location accuracy information. In the

event that the underlying circuit-switched technology is not available to place the E911 call while the customer is connected to the VoIP network, wireless carriers should be permitted to use the same process for E911 calls as other interconnected VoIP providers. Namely, the carrier would use information submitted by the customer in connection with the account in order to determine their location in connection with the provision of emergency service. This policy would strike an appropriate balance between encouraging innovation while preserving continued consumer access to important E911 services. Since by its nature mobile wireless services are nomadic, it makes no sense for the carrier to have to maintain a database separate from its billing database for this function and the customers should not have to separately supply location information.

The above transitional plan will only be necessary until the 911 VoLTE ecosystem develops. As VoLTE and other 4G technologies develop and evolve, E911 service certainly will be made available over these new standards. At that time, as carriers continue to transition customers off of their legacy networks, carriers can begin providing full-function E911 service over VoLTE and the need to use circuit-switched networks to carry E911 traffic will cease. However, in the interim, the provision of E911 service using a carrier's CDMA/GSM networks would provide customers with continued access to important E911 services, while according carriers necessary flexibility. Ideally, carriers should not be forced to abandon this transitional solution according to a fixed timetable when 911 VoLTE solutions are available. Instead, carriers should be permitted to implement the VoLTE E911 solution on a market-driven timetable. A command and control approach mandating a VoLTE-based E911 solution as of a particular date – or within a specified time of commercial availability – would impose significant and unnecessary costs on carriers.

IV. THE COMMISSION MUST ENSURE THAT CARRIERS ARE NOT HELD RESPONSIBLE FOR OVER-THE-TOP VOIP APPLICATIONS THAT THEY CANNOT CONTROL

MetroPCS believes that the interim solution described above strikes the correct balance between protecting public safety and permitting carriers to efficiently deploy next-generation wireless technologies. It is important, however, that these standards only be applied to aspects of wireless service under the carrier's control. Specifically, the Commission should not require an underlying facility-based wireless carrier to supply any additional location information to a VoIP over-the-top application (such as Skype or Google Voice). Rather, the end user's E911 service should be that which is associated with the wireless service being provided to the handset. For example, the wireless handset has the ability to request certain location information (such as GPS information provided through a GPS-capable smartphone) from the wireless network that would be available to the VoIP application; however, the over-the-top VoIP provider should not be given access to the underlying carrier's Position-Determining Entity ("PDE") or other sensitive network-based location information, nor should the wireless provider be required to make such information available to the over-the-top VoIP provider. VoIP applications typically are provided via devices that possess some form of location information capability (such as GPS), and frequently have WiFi capability. These functionalities provide suitable location accuracy through the use of hotspot location recognition. Consequently, the wireless provider need not provide the VoIP application with any sensitive network information in order to achieve reasonable location accuracy. Further, to the extent that the device is a smartphone that has voice service available from the wireless carrier, the customer would still be able to access 911 using the carrier services already available on the handset.

Requiring wireless carriers to ensure that over-the-top VoIP applications have 911 capabilities would impose a significant burden on the underlying carriers. It is important to recognize that a customer's use of an over-the-top VoIP application often occurs without the knowledge of the facilities-based wireless provider. Indeed, such a requirement might require wireless carriers to verify and authorize (or not) all VoIP applications that are available for the smartphones they sell. This would be virtually impossible given that many VoIP applications are available through third party application stores. And, many handset operating systems are open source, allowing anyone to develop applications. A carrier may know that data is flowing over its network, but it may be difficult to determine exactly what function a customer is accessing through that data.

Any requirement that causes an underlying carrier to validate and authorize VoIP applications is potentially problematic due to the Commission's adoption of the "no blocking" rule set forth in the Commission's *Open Internet Order*.[6] Subject to the reasonable network management exception, this rule prevents wireless carriers from blocking access to any application that competes with its voice services (such as a VoIP over-the-top application).[7] Due to the "no blocking" rule, a wireless provider generally must allow consumers to use any and all VoIP clients, no matter how well or how poorly they work with the carrier's handsets and infrastructure. Given this rule, which has now taken effect, it would be unreasonable to require an underlying carrier to provide a VoIP application – that the carrier may not even know is being used – with sensitive network-based location information apart from the location-based

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[6] *Preserving the Open Internet*; *Broadband Industry Practices*, Report and Order, GN Docket No. 09-191, WC Docket No. 07-52 (rel. Dec. 23, 2010) (the "*Open Internet Order*"). The rules promulgated in the *Open Internet Order* become effective on November 21, 2011.

[7] *Id*. at ¶¶ 99-103.

information that already is available to the handset. Further, if such a burden were imposed, it would deter the Commission's efforts to promote innovation - since a carrier would have to be permitted to reject applications that do not have the necessary functionality.

V. THE DEFINITION OF INTERCONNECTED VOIP SHOULD BE MODIFIED TO INCLUDE CONNECTIVITY TO UNITED STATES E.164 NUMBERS

The *NPRM* seeks comment on whether the Commission "should modify the fourth prong of the existing definition [of interconnected VoIP] to define connectivity in terms of the ability to connect calls to United States E.164 telephone numbers rather than the PSTN."[8] MetroPCS believes that modifying the definition of interconnected VoIP in this manner will more accurately reflect consumer views and marketplace realities.

In the past, the Commission has found that "[f]rom the perspective of a customer making an ordinary telephone call . . . interconnected VoIP service is functionally indistinguishable from a customer's perspective from traditional telephone service."[9] Similarly, a VoIP service that permits calls to be placed to telephone numbers via interconnection with the end-user through internet protocol ("IP") rather than time division multiplexing ("TDM") is functionally indistinguishable from a service that connects via the PSTN using TDM. In reality, historical regulatory distinctions based upon whether a service is or is not interconnected with the PSTN have lost any practical meaning in an IP world. Ensuring that customers placing VoIP calls using ordinary telephone numbers (as opposed to solely using IP addresses or screen names) are considered interconnected – for all purposes, not merely E911 purposes – will increase regulatory parity and certainty. Indeed, the Commission has long expressed its desire to create

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[8] *NPRM* at ¶ 50.

[9] *IP-Enabled Services*, Report and Order, 24 FCC Rcd 6039, ¶ 12 (2009).

an "enduring regulatory regime under which substantially similar services are subject to symmetrical regulation and the marketplace shapes the development of mobile services to meet customer demands."[10]

Regulatory parity also demands that E911 obligations be applied to outbound-only interconnected VoIP. Customers using outbound-only VoIP services via a wireless handset are likely to expect those services to have the same functionality as a bi-directional VoIP handset. Because customers see the functionality of outbound calling to 911 (whether via bi-directional or outbound-only VoIP) as indistinguishable, the Commission should apply the same regulatory obligations to each in order to avoid consumer confusion in emergency situations.

In short, the Commission must seek to make its regulatory obligations as technology-neutral as possible. Indeed, the Commission has stated that it "seeks to promulgate rules that are 'technology neutral' because [it] believe[s] that ideally it is in the public interest for competing telecommunications technologies to succeed or fail in the marketplace on the basis of their merits and other market factors, and not primarily because of government regulation."[11] The Commission should heed its own words here and ensure that similar services – regardless of the technology over which they are provided – must comply with similar obligations with respect to E911 services.

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[10] *Implementation of Section 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services*, Second Report and Order, 9 FCC Rcd 1411, ¶ 69 (1994) (emphasis supplied).

[11] *Biennial Regulatory Review -- Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 13900, ¶ 56 (2005).

VI. A BROADBAND SERVICE PROVIDER SHOULD BE CONSIDERED AN "OTHER EMERGENCY COMMUNICATIONS PROVIDER" AND BE ENTITLED TO THE RESULTING LIABILITY PROTECTIONS

The Commission seeks additional information regarding "whether some type of liability protection might be necessary or appropriate for those involved in the provision of emergency services."[12] Specifically, the *NPRM* asks if "a broadband provider [should] be considered an 'other emergency communications provider' subject to the liability protections of [S]ection 615a(a)?"[13] MetroPCS strongly agrees that the liability protections of Section 615a(a) should be applied to broadband service providers in the interests of fairness and regulatory parity. Section 615a(a) provides an important level of protection for providers of emergency communications by granting them "immunity or other protection from liability . . . in connection with an act or omission involving the release . . . of subscriber information related to emergency calls, emergency services, or other emergency communications services."[14] Although as a wireless carrier, MetroPCS already is covered by the protections of Section 615a(a), others in the E911 ecosystem may not be. MetroPCS believes that this protection is properly extended to all providers of E911 services as well as to any entity that directly aids in the provision of E911 services. For example, if WiFi-based positioning is used in determining the location of an emergency caller, then any rules must protect the WiFi positioning provider from liability in connection with its assistance in providing emergency communications services. As an important ancillary benefit, the broadening of Section 615a(a) protection to include WiFi

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[12] *NPRM* at ¶ 77.

[13] *Id*.

[14] 47 U.S.C. § 615a(a).

positioning services would serve to encourage the use of WiFi positioning in connection with the provision of E911 services.[15]

Extending the protections of Section 615a(a) to broadband service providers and other entities assisting with the provision of E911 service is important for several reasons. First, E911 is a regulatory mandate, and covered entities have no choice but to comply. Accordingly, the Commission should ensure that businesses are well-protected while participating in this important public safety exercise or risk putting an unfair burden on participants. Second, carriers are unable to charge for the provisioning of E911 service, and therefore have no revenue to offset any potential claims. The protections of Section 615a(a) provide an important buffer for broadband providers to protect them from significant liabilities that might be incurred while engaging in a non-revenue-generating aspect of their business. Further, broadening the scope of Section 615a(a) increases regulatory parity among broadband providers and CMRS carriers. As discussed above, the Commission should be concerned with subjecting like services to like burdens and benefits. To permit only carriers providing CMRS services to have the benefit of liability protections for the disclosure of information for emergency purposes unfairly tilts the competitive balance in the favor of such carriers. Particularly as so many wireless carriers are moving towards VoLTE and other IP-based voice technologies, the Commission should ensure that all wireless carriers providing like services compete on a level playing field. Finally, according mobile wireless VoIP services the same protection as CMRS services will incent CMRS carriers not to delay implementing native 911 services for VoLTE as they transition from circuit-switched networks. Since native 911 services in VoLTE ultimately will allow consumers

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[15] Indeed, the *NPRM* specifically seeks comment on how to "encourage the use of location information that has been derived using Wi-Fi positioning for 911 purposes." *NPRM* at ¶ 93.

better choices at lower costs, consumers will benefit from incenting carriers to upgrade to VoIP as soon as possible.

VII. THE COMMISSION NEED NOT PROVIDE CONSUMERS WITH ADDITIONAL DISCLOSURES IN CONNECTION WITH LOCATION-BASED SERVICES AVAILABLE ON HANDSETS

The *NPRM* seeks comment on the advisability of adopting benchmarks recommended by the Communications Security, Reliability, and Interoperability Council ("CSRIC") to "assist consumers in evaluating the ability of carriers to provide precise location information for emergency purposes based on the location-based capabilities of devices."[16] MetroPCS submits that such benchmarks are unnecessary, difficult to implement and may in fact have the paradoxical result of being confusing to consumers. While carriers may be able to provide consumers with general information about handset specifications (such as whether the handsets have WiFi or GPS capabilities), and may be able to provide information on the location-based information that is provided via its own network, it may not be able to do so for all variations of VoIP calling. For example, an over-the-top VoIP client may not be programmed to properly interact with the GPS functionality of a particular handset, and therefore the handset may not be able to feed the VoIP application with location-based information. Absent testing every single VoIP application – past, present and future – a wireless carrier will be unable to say with any certainty that it can support handset-based E911 location services for over-the-top VoIP clients. Accordingly, a disclosure of this nature would require a wireless carrier to test every single VoIP application on the market and provide the appropriate disclosures for each. Such an obligation would constitute an unnecessary waste of carrier time and resources.

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[16] *Id*. at ¶ 79.

Additionally, consumers already are bombarded with myriad disclosures when purchasing a wireless handset or wireless service – a lengthy description regarding what geolocation functions may work with which applications is unnecessary and would only increase consumer confusion. While MetroPCS certainly supports efforts of the Commission and CSRIC to "leverage[] commercial location-based services for 911 location information,"[17] additional disclosure requirements should not be a part of this equation.

VIII. CONCLUSION

MetroPCS commends the Commission for its efforts to develop a robust and wide-ranging record on the application of E911 obligations to VoIP and next-generation communications technologies. As the industry transitions to VoLTE over 4G LTE networks, the Commission should be mindful and adopt rules that permit wireless carriers to route E911 calls over their existing circuit-switched CDMA/GSM networks. Such an arrangement will permit customers to enjoy the important benefits of next-generation communications technologies at an earlier date while still giving them access to the critical E911 services that they have become accustomed to. Over time, as VoLTE E911 is rolled out, consumers will be able to receive both ordinary and emergency communications services over the same network standard. Carriers also must given a significant period in which to develop the 911 VoLTE ecosystem. In order to promote growth of next-generation communications, the Commission should ensure that broadband service providers are afforded the same liability protections as CMRS carriers in connection with the disclosure of information used in the provision of emergency services. Such an arrangement also likely will have the effect of broadening the use of WiFi hotspot-based

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[17] *Id.*

positioning services. By taking these and the other steps discussed in detail above, MetroPCS believes that the Commission can bring both regulatory parity and consumer benefit to E911 services.

Respectfully submitted,

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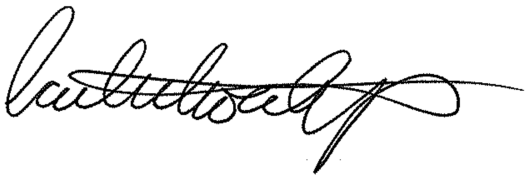

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